REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquerters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suits 1204, Agington, VA, 2220-24302, and to the Office of Management and Budget, Propertyork Reduction Project (10704-0188), Washington, DC, 20503.

Davis Highway, Suite 1204, Arlington, VA 222	02-4302, and to the Office of Manage	ement and Budget, Paper	work Reduction I	Project (0704-0188), Washington, DC 20503.
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPOR	T TYPE AND	DATES COVERED
	970402	Fina1	950501	to 961231
4. TITLE AND SUBTITLE				5. FUNDING NUMBERS
UCAR Postdoctoral Prog	ram in Ocean Model	ling		N00014-95-1-1269
6. AUTHOR(S)				
Meg S. Austin				
7. PERFORMING ORGANIZATION NAME	S(S) AND ADDRESS(ES)			8. PERFORMING ORGANIZATION
University Corporati	on for Atmospheric	c Research		REPORT NUMBER
Visiting Scientist Programs				NA
P.O. Box 3000	•••			
Boulder, CO 80307-3	000			*
9. SPONSORING / MONITORING AGENC	Y NAMESIS) AND ADDRESSIES			10. SPONSORING / MONITORING
Office of Naval Rese		•		AGENCY REPORT NUMBER
Ocean Science Direct				*
Ballston Tower Oce				NA
800 North Quincy Str	eet Arlington, V	VA 22217-56	60	
11. SUPPLEMENTARY NOTES				
a. DISTRIBUTION / AVAILABILITY STAT	EMENT			12. DISTRIBUTION CODE
Public Distribution				
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13. ABSTRACT (Maximum 200 words)	nder sponsorship o	of the Natio	nal Sci	ence Foundation's Division
of Ocean Sciences and P	olar Programs and	the Office	of Nava:	l Research's Ocean Science
Directorate, UCAR and t	he ocean sciences	community o	ffered a	a postdoctoral program who
purpose was to help cre	ate the next gener	ration of br	oadly to	rained ocean modelers. Th were awarded. The fellow
have been associated wi	th experienced, es	stablished s	cientis	ts in oceanography, and ha
worked together with th	em on jointly sele	ected modeli	na proje	ects. The program has
stressed training as we	11 as research. S	The program'	s Steer:	ing Committee and UCAR fee
that the overall progra	m has been highly	successful	in suppo	orting high quality fellow
and in providing them w	ith valuable resear	arch experie	nces in	ocean modeling. A need
continues to exist for	skilled researcher	rs who can i	ntellige	ently utilize computations
capabilities to improve				raining and development of eling studies that contrib
to an increase in the b	asic understanding	of oceanoo	raphic i	processes should remain a
priority of the ocean s	ciences community	. This prod	ram pro	vided unique and advanta-
				ows and host scientists.
14. SUBJECT TERMS		14.00	MACH	15. NUMBER OF PAGES
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OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	OF ABS		
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Standard Form 298 (Rev. 2-89) Prescribed by ANISE Sed 239-19 298-102 Under sponsorship of the National Science Foundation's (NSF) Divisions of Ocean Sciences and Polar Programs and the Office of Naval Research's (ONR) Ocean Science Directorate, the University Corporation for Atmospheric Research (UCAR) and the ocean sciences community offered a postdoctoral program whose purpose was to help create the next generation of broadly trained ocean modelers. The program was initiated in 1989 and a total of 29 postdoctoral fellowships were awarded during the life of the program. The postdoctoral fellows have been associated with experienced, established scientists in oceanography, and have worked together with them on jointly selected modeling projects. The program has stressed training as well as research.

Modeling is recognized by the oceanographic community as a key to understanding ocean circulation, the exchange and feedback between the ocean and the atmosphere, including ice covered regions, interactions along the coastal/shelf boundaries, the biological and chemical features of the ocean, and their linkage through the complete spectrum of time and space scales within an entire global system. One strategy of this program has been to approach these problems by pairing scientists of diverse backgrounds. The sponsors and the steering committee have been particularly interested in making appointments to:

- •fluid dynamicists, applied mathematicians, physicists, and meteorologists as well as biological, chemical, and physical oceanographers who wish to pursue dynamical modeling of the ocean.
- •physical ocean modelers who wish to pursue models that incorporate the chemistry and biology of the oceans.
- •scientists interested in developing fully interactive oceanatmosphere models.

The UCAR program offered visiting research appointments of one year, renewable for a second year. A steering committee selected the fellows and their host institutions. Research appointments were made to various universities, government laboratories and the National Center for Atmospheric Research. UCAR strongly encouraged applications from women and minorities.

- Prospective postdoctoral fellows applied by sending a
 - resume
 - two-page statement of experience
 - two-page statement of research interests
 - the names and addresses of four professional references (one must have been from the applicant's thesis advisor)

The Steering Committee and UCAR feel that the overall program has been highly successful in supporting high quality fellows and in providing them with valuable research experiences in ocean modeling. A need continues to exist for skilled researchers who can intelligently utilize computational capabilities to improve knowledge of ocean dynamics. The training and development of scientists with the capability to formulate and execute modeling studies that contribute to an increase in the basic understanding of oceanographic processes should remain a priority of the ocean sciences community. This program provided unique and advantageous opportunities for postdoctoral research for both fellows and host scientists.

ONR Grant N00014-95-1-1269, provided partial support for the final two classes of postdoctoral fellows (see Attachment A). The program's final search and selection process occurred in 1995 and the last appointment of the program ends on October 15, 1997.

The partnership between UCAR, ONR and NSF produced a very successful postdoctoral fellowship program, and we are pleased to have had the opportunity to work with ONR in support of this endeavor.

Postdoctoral Program In Ocean Modeling

Current Position	Still in Postdoctoral Program	Faculty position University of Alberta Edmonton, Alberta, Canada	Permanent Research Associate position at Scripps Institute of Oceanography	Still in Postdoctoral Program	Post-doctoral Researcher Oregon State University	Applied Mathematician McKinsey & Co. Sydney, Australia	Assistant Professor Department of Oceanography Florida State University
Ph.D. Year, Subject Area, Institution & Faculty Advisor	1995, Oceanography Imperial College London, UK John Marshall. MIT	1994, Physics University of Toronto W.R. Peltier	1994, Physics University of Texas, Austin P.J. Morrison	1995, Oceanography University of Washington Peter Rhines	1994, Physical Oceanography University of Washington M. Kawase	1993, Geophysical Fluid Dymanics The Australian National University R.W. Griffiths	1996, Oceanography University of Washington Jody Deming
Host Name & Institution	David Neelin Math Sciences Building University of California, Los Angeles	George Philander Program in Atmospheric & Ocean Sciences Princeton University	William Young Scripps Institution of Oceanography University of California, San Diego	Robert Toggweiler NOAA/GFDL Ocean Group Princeton University	Ronald de Szoeke College of Oceanic & Atmospheric Sciences Oregon State University	Peter Rhines School of Oceanography University of Washington	Richard Wiegert Department of Marine Programs University of Georgia
Research Topic	Developing numerical methods to improve use of ocean models in climate studies.	Air-sea interaction using a coupled global climate model.	Transport mixing of Potential Vorticity (PV) and passive tracers in geophysical flows.	Improving the representation of the ocean's physics in the coupled models used in climate simulation to improve our understanding of the ocean circulation.	Implementation of a new isopycnal- coordinate ocean general circulation model.	Conduct observationally motivated experimental and numerical modeling aimed at improving the parameterization of small-scale mixing in large-scale ocean circulation models.	Air-sea carbon flux and the role of high-latitude marine ecosystems.
Dates of Appointment	7/17/95 - 7/16/97	1/16/95 - 1/15/97	10/19/94 - 10/18/96	10/16/95 - 10/15/97	6/13/94 - 6/12/96	5/25/94 - 5/24/96	3/1/96-1/3/97
Name	Alistair Adcroft	Andrew Bush	Diego del-Castillo	Robert Hallberg	Scott Springer	Andrew Stamp	Patricia Yager



UCAR

University Corporation for Atmospheric Research P.O. Box 3000, Boulder, CO 80307-3000 U.S.A. Tel: (303) 497-8649 FAX: (303) 497-8638

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April 2, 1997

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Yale University

Dr. Steven R. Ramp Program Officer, Code 322 PO Office of Naval Research 800 North Quincy Street Arlington, VA 22217

Dear Steve:

UCAR is pleased to forward to you the Final Technical /Performance Report for Grant No. N00014-95-1-1269 for the UCAR Postdoctoral Program in Ocean Modeling.

The partnership between UCAR, ONR and NSF has produced a very successful postdoctoral fellowship program, and we are pleased to have had the opportunity to work with you in support of this endeavor.

If you have questions regarding the enclosed report, please contact me at 303-497-8630.

Sincerely yours,

Meg Austin

Director

UCAR Visiting Scientist Programs

CC:

R. Lambert

File

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Лаше	Dates or Appointment	research Topic	rost name & Institution	rn.D. rear, Subject Area, Institution & Faculty Advisor	Position
Alistair Adcroft	7/17/95-7/16/97	Developing numerical methods to improve use of ocean models in climate studies.	David Neelin Math Sciences Building University of California, Los Angeles	1995, Oceanography Imperial College London, UK John Marshall. MIT	Still in Postdoctoral Program
Andrew Bush	1/16/95 - 1/15/97	Air-sea interaction using a coupled global climate model.	George Philander Program in Atmospheric & Ocean Sciences Princeton University	1994, Physics University of Toronto W.R. Peltier	Faculty position University of Alberta Edmonton, Alberta, Canada
Diego del-Castillo	10/19/94 - 10/18/96	Transport mixing of Potential Vorticity (PV) and passive tracers in geophysical flows.	William Young Scripps Institution of Oceanography University of California, San Diego	1994, Physics University of Texas, Austin P.J. Morrison	Permanent Research Associate position at Scripps Institute of Oceanography
Robert Hallberg	10/16/95 - 10/15/97	Improving the representation of the ocean's physics in the coupled models used in climate simulation to improve our understanding of the ocean circulation.	Robert Toggweiler NOAA/GFDL Ocean Group Princeton University	1995, Oceanography University of Washington Peter Rhines	Still in Postdoctoral Program
Scott Springer	6/13/94 - 6/12/96	Implementation of a new isopycnal- coordinate ocean general circulation model.	Ronald de Szoeke College of Oceanic & Atmospheric Sciences Oregon State University	1994, Physical Oceanography University of Washington M. Kawase	Post-doctoral Researcher Oregon State University
Andrew Stamp	5/25/94 - 5/24/96	Conduct observationally motivated experimental and numerical modeling aimed at improving the parameterization of small-scale mixing in large-scale ocean circulation models.	Peter Rhines School of Oceanography University of Washington	1993, Geophysical Fluid Dymanics The Australian National University R.W. Griffiths	Applied Mathematician McKinsey & Co. Sydney, Australia
Patricia Yager	3/1/96 - 1/3/97	Air-sea carbon flux and the role of high-latitude marine ecosystems.	Richard Wiegert Department of Marine Programs University of Georgia	1996, Oceanography University of Washington Jody Deming	Assistant Professor Department of Oceanography Florida State University

Attachment A